

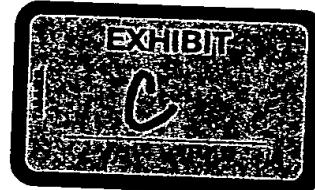
INTERNATIONAL ORGANISATION FOR STANDARDISATION
ORGANISATION INTERNATIONALE DE NORMALISATION
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CODING OF MOVING PICTURES AND AUDIO

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Tampere Press Release

Highlights

At its 35th meeting in Tampere (Finland), from 8-12 July 1996, hosted by the Finnish Standards Association (SFS), and organized by Nokia Corporation, the MPEG working group made good progress with the MPEG-4 standard. New models of the Video, Audio and Systems parts were drafted. Considerable progress was made on the multiplex. Although MPEG meetings last a week, it was almost too short to process all the 150 contributions to the Video part of the standard.

Two parts of MPEG-2 (RTI and DSM-CC, see below) moved to International Standard at this meeting.

The first results of informal experiments on the comparison of the extension of MPEG-2 Audio to the new, 'Non Backward Compatible mode' (NBC) have been reported. These show a significant saving in bitrate for the same audio quality. Therefore, excellent performance of NBC is expected in the formal comparative assessment which is scheduled to be reported at the November 1996 meeting. NBC has successfully reached the stage of Committee Draft of the International Standard.

MPEG has created its own homepage on the Internet, providing information on the what, where, when and how of the MPEG standards. The homepage, which is updated regularly, holds information about the standards and sections on 'Frequently Asked Questions', about for instance MPEG Audio and Video. The address is <http://www.cselt.it/mpeg>

Background

The work in MPEG is carried out in several sub groups, that work on specific issues. Over 300 experts took part in the work in Tampere, working in several sub groups on specific issues. The next meeting will take place from 30 September through 2 October in Chicago, United States, hosted by Motorola. This will be an extra meeting, made necessary by the rapid progress in the 'Verification Models'. These VMs are the standards-to-be for MPEG-4 Audio, Video, and the MPEG-4 Systems and Description

Language. MPEG-4 is currently the focus of MPEG's activity. MPEG-4 will be standard for the coded representation of audiovisual objects, that can be delivered through a variety of networks, and allow interactive use and re-use. A video object is for instance a dog, and audio object could be the sounds produced by that dog. Also computer-generated objects are important to MPEG-4.

A detailed list of the results of the 35th meeting follows below. The list is largely organized according to the several sub groups that MPEG knows.

Details

MSDL

The activities in developing the MSDL (MPEG-4 System and Description Languages, the 'system layer' of MPEG-4) were focused on defining how to multiplex the audio, visual, audiovisual and other objects into a single bitstream. This multiplex also carries information on the relationship between these objects, that is necessary to present them to a user, e.g. on a screen or through loudspeakers, in a synchronized way. Work was also done on defining how MPEG-4 decoding and composition tools can be used in a flexible environment, such as a PC. In this case the complete coding scheme is not fixed, but it can be configured according to specific user or application needs. To this end, API's (Application Program Interfaces) will be defined for these tools.

Next to listing information on the MPEG homepage, the MSDL has its own homepage:

<http://www-elec.enst.fr/msdl/>

Synthetic Audio and Video

An important property of MPEG-4 is the integration of natural and synthetic audio and video. The work in the synthetic area concentrated on the 'Call for Proposals', in which MPEG asks for methods to efficiently represent synthetic audio and video objects.

The first issue that this group will deal with is the coding of a talking head and the generation of artificial speech and audio. The next step is to add interactivity, and expanding the complexity of the virtual environment. The homepage of this group is <http://www.es.com/mpeg4-snvc>

Audio

Next to the work on the Non-Backward Compatible mode for MPEG-2, the audio experts have defined the requirements for MPEG-4. These requirements define the expectations of the experts in MPEG in relation to the various applications to which MPEG-4 is targeted. The presence of clear requirements is essential in the development of meaningful software and hardware embodiments. This exercise was also carried out in the other groups developing the MPEG-4 standard.

Video

The video group issued its third version of their Verification Model. One of the most important capabilities supported by MPEG-4 Video is coding video objects with arbitrary shape. The representation of these objects' shapes can now be done twice as efficiently, and an even larger step is expected for next meeting. It is possible to send or store these visual objects with different qualities: using the same coded representation, decoding to a basic quality can be used by simple systems or on

low capacity channels, but also high quality decoding is possible. To draft the new VM, over 150 contributions on possible improvements were evaluated.

MPEG-2

The Digital Storage Media - Command and Control (DSM-CC) part of the MPEG-2 standard progressed to International Standard, and the work on DSM-CC is now finished. DSM-CC provides the standard interface and API for video servers and set top boxes, that is being widely implemented, and will move the industry to a new level of inter-operability.

Also the Real-Time Interface (RTI) part of MPEG-2 progressed to International Standard. The RTI facilitates inter-operability by defining timing constraints on the real-time delivery of MPEG-2 Transport Streams.

Test

In July '97, the current status of the MPEG-4 standard will be thoroughly tested against the requirements for the standard, and other technology available in the market place, to ensure that the developments are on the right track. The test group has started to draft the outline for these tests. These tests will pose a challenge in themselves, as requirements will be evaluated that were never tested before on this scale, such as the capability to cope with errors in mobile networks, or the quality of individual objects in an audiovisual scene.

New subgroup organisation

At Tampere a new subgroup organisation was implemented, with the creation of a Requirements group, the transfer of MSDL activity to the Systems group and the creation of an SNHC group and a Liaison Group.

In a departure from its normal practice which does not mention individual contribution in press releases, WG11 expresses its gratitude and appreciation to Dr. Cliff Reader of Samsung for his long standing leadership and contributions to WG11 specifically and to worldwide standardization in general. Dr. Reader has played a major role in the 3 generations of Audio/Video coding standards developed by MPEG. The current efforts underway in MPEG 4 have felt his presence and inspiration since it was approved in 1993. We will miss him and it is our hope that some day he will be able to find his way back to us. We wish Cliff the best of success in all future endeavors.

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